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ABSTRACT

Age grading, the differentiation of social groups by members' age judgments, is widely regarded to be a universal aspect of social life. Most studies have examined age structurally (demographically), rather than normatively (modally). This study presents survey data measuring employees' age judgments of managerial careers collected from an electric utility company. The study found there was a wide agreement on age boundaries for each level; however, employees' age judgments differ systematically from the company's actual age distribution. The significance of this difference is emphasized by performance differences between managers who deviate from shared age judgments and those who deviate from the age distribution. The results suggest not only that age grading occurs in work organizations, but that when judgments differ from structural reality, a normative perspective is necessary to study age as a social phenomenon. An extensive reference list, three graphs, and three tables conclude the document. (Author/MD)

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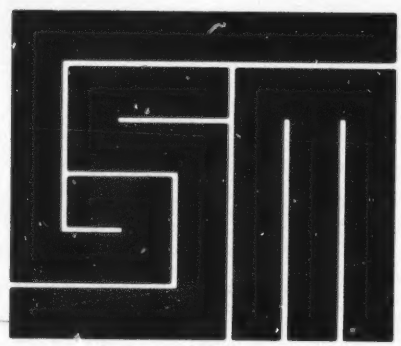

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NORMATIVE AND STRUCTURAL PERSPECTIVES ON AGE IN A WORK ORGANIZATION[1]

ABSTRACT

Age grading, the differentiation of social groups by members' age judgments, is widely regarded to be a universal aspect of social life. Yet most studies examine age structurally, using age distributions, rather than normatively, using group members' beliefs. Survey data measuring employees' age judgments of managerial careers were collected from an electric utility (N=488, 47%). There is wide agreement on age boundaries for each level; however, employees' age judgments differ systematically from the company's actual age distribution. The significance of this difference is emphasized by performance differences between managers who deviate from shared age judgments and those who deviate from the age distribution. The results suggest not only that age grading occurs in work organizations, but that when judgments differ from structural reality, a normative perspective is necessary to study age as a social phenomenon.

NORMATIVE AND STRUCTURAL PERSPECTIVES ON AGE IN A WORK ORGANIZATION[1]

Age is one of the few universal human experiences. As a result, the social norms that develop around it are believed to exert considerable influence on behavior (Atchley 1975). Although the social significance of age is widely acknowledged (Parsons 1942; Cain 1964; Clausen 1972; Elder 1975), little empirical work exists on the subject (Linton 1940, Marini 1984). This is particularly true for studies within work organizations. Recent research suggests that work organizations develop their own cultures (Pettigrew 1979; Dyer 1982; Jelinek, Smircich, & Hirsch 1983), and age norms, as underlying components of human interaction, should be visible in such settings.

The organizational literature provides indirect evidence for the existence of age norms. Managers interpret the motivation and performance of employees on the basis of age (Rosen & Jerdee 1976; 1977; Cleveland & Landy 1983), men and women make decisions about their careers based on age expectations (Martin & Strauss 1956; Sofer 1970; Lawrence 1980), and engineering firms use age implicitly to define the technological obsolescence of employees (Dalton & Thompson 1971; Thompson & Dalton 1976). These behaviors suggest that people in organizations develop and respond to a shared picture of age-appropriate behavior. However, the existence of such a shared picture has never been assessed directly.

Moreover, even the existence of shared age judgments[2] has never been established. Age norms do not exist without shared age judgments because expectations of age-appropriate behavior cannot be enforced without wide agreement on the appropriate ages. Thus, as a necessary step in the direct establishment of age norms, this paper presents results of the first organizational study in which the existence of shared age judgments is

demonstrated. The agreement between shared age judgments and actual age distributions is also examined.

Age usually is studied by dividing the life span into age groups, whose members are assumed to have some similar characteristics. Adolescence, for instance, is the common term for an age group including individuals between the ages of 12 and 19. Age group members are expected to be "growing up" and "not yet adults." They are allowed to "feel their oats" more than members of older age groups for whom expectations differ.

Age groups have been studied in the past either by examining age judgments, the normative perspective, or by examining actual age distributions, the structural perspective. The two perspectives are distinguished by their definition of the age groups used to predict behavioral outcomes. From the normative perspective, age groups, also known as age grades (Radcliffe-Brown 1929, p. 21)[3], are defined by the shared age judgments of members of a social organization. Members agree on what constitutes acceptable age group behavior, and when the bounds of acceptable behavior are violated, the violator is sanctioned (cf. Homans 1950, p. 122). Age groups influence behavior because membership is not voluntary. People can neither change their age, nor escape the widely held assumptions about and expectations of their age group. Thus, it is not chronological age itself that is of interest in the normative model, but the meanings people construct around each age.

Normatively-defined age groups have never been studied in work organizations, and the first question of this research is "Are work organizations age graded?" It has been shown that some societies are age graded, that is, members' shared age judgments define and differentiate between age groups. Eisenstadt (1956) used anthropological records of numerous third world societies to identify members' agreement on age group definition, while Neugarten et al. (1957, 1968, 1973), collected data from a U.S. sample to

examine members' agreement directly. In both studies, societal members were observed to have shared judgments of age-appropriate behavior that distinguished between different age groups.

Age grading is difficult to study. Societies are complex, and age groups based on members' age judgments tend to overlap. This may be part of the reason why most work on age groups is done from the structural perspective (e.g. Riley et al. 1972; Smith 1973; Featherman & Hauser 1978; Pfeffer 1981; Kaufman & Spilerman 1982; Stewman & Konda 1983).

From the structural perspective, age groups are defined a priori by the researcher. Age affects behavior because the distribution of ages within a social group constrains the roles and statuses allocated to members. The scarcity of young marriageable men in England following World War II, for instance, increased the age range of men considered as acceptable mates by young women. Structuralists divide societies into discrete age categories, or strata, composed of individuals of similar age. Age strata are distinguished by "socially significant aspects of people and roles" such as chronological age, as in census categories; biological stage, as in categories based on physical development; psychological stage, as in the life stage models of Levinson (1978), Vaillant (1979), or Gould (1979); or stage of social development, as in Kohlberg's (1973) model of moral development (See Riley et al. 1972 for an elaboration of this view of age groupings).

The distinction between the normative perspective that defines age groups internally by the shared judgments of members and the structural perspective that defines age groups externally from the perspective of the researcher is crucial. The most important question from the normative perspective, "Are work organizations age graded?" is irrelevant from the structural perspective where age groups exist by definition: when chronological age automatically assigns employees to an age group, all work organizations are age graded.

Some structuralists suggest that structurally defined age categories are meant to index socially meaningful events (Riley et al. 1972). And, it may be that social meanings can be represented within the context of observed age distributions. If so, then both normative and structural perspectives can be captured within the study of age distributions. However, it is unknown whether age group members perceive the same meanings as are inferred by the census researchers, demographers, or life stage theorists who define such age categories. In structural approaches, age group membership is used to predict behavioral outcomes whether or not members are aware of their membership.

At first glance, the specification of age groups by the structuralist seems quite neat, compared with the overlapping groups studied by those using a normative perspective. Further study, however, reveals that structural age groups may not be so parsimonious after all. For example, the division of life into age categories whose occupants are assumed to be similar (cf. Spenner, Otto, & Call 1982, p. 9) often disregards whether members are similar on the criteria of interest (Lawrence 1984b). Blau and Duncan (1976, pp. 81-84) address this problem indirectly in discussing the difficulty of using cohort and generational concepts simultaneously to explain historical trends in the occupational structure. Age groups or cohorts defined by the researcher for sons do not coincide with cohorts defined for fathers, thus inferences about generational mobility from cohort data are difficult to make. Hogan (1981) is even more explicit. His research shows that being off schedule with demographic age patterns for schooling, work, and marriage leads to marital disruption and lower total earnings for men. Hogan suggests that demographically observed age transitions are not the entire picture; however, little is known about transition norms. He quotes from Elder: "No large sample study has provided evidence on normative expectations and sanctions regarding the timing and synchronization of social roles and transitions over

the life span...The process by which age norms or timetables are constructed, transmitted, and learned remains largely unexplored territory" (1981, p. 13).

As Hogan suggests, there probably is interaction between the normative and structural explanations of age effects. The importance of differences between the two approaches rests on the degree to which members' age judgments agree with the actual age distribution. If judgments are accurate, age norms develop around the actual age demography. Thus, demographically selected age categories may well capture socially shared age assumptions and expectations. However, if judgments are inaccurate, then the normative and structural approaches are describing different phenomena. This, then, is the crux of the second question addressed in this study, which is: "Do members' age judgments accurately reflect the actual age distribution of their organization?"

This paper presents a study of age in a work organization in which both employees' age judgments and actual age distributions are analyzed. The first major result of the study is that the organization is age graded, that is, employees develop shared age judgments of the company. The shared judgments, however, differ markedly from the actual age distribution. In addition, there are performance sanctions for deviance from shared judgments, but not for deviance from distributional age groupings, thus the second major result is that when judgments differ from reality, a normative perspective is necessary to study age as a social phenomenon.

I. METHODOLOGY

Demographic and questionnaire data on managerial careers were collected from a large electric utility. The Bennix Power Company (not its real name), or BPC, is an old, established firm. Traditionally, people come to work in the company after school and remain until retirement. The average age of salaried staff amd managerial employees is 45 (range=22-66) and the average tenure is 20

years (range=0-45). There are eight managerial levels: Level 1 is a first level supervisory position and Level 8 includes the Chief Executive Officer and President.

Managerial careers have inherent advantages for studies of age in a work organization. The stages of progress are rungs of a formal status ladder, with those on the lower rungs considered less important than those on higher rungs.[4] Since an individual can occupy only one level at a time, formal advancement is associated inevitably with the age of the individual, thus the many levels in the status system of managerial careers emphasize the differences between managers of different ages. This makes it likely that employees use age to differentiate between career levels.

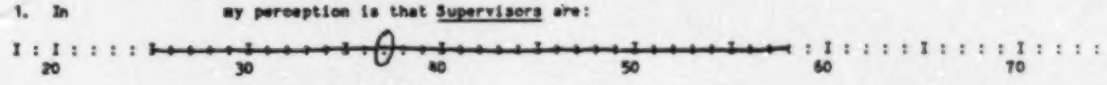
Position on a career ladder also provides a behavioral anchor for age assumptions and expectations. Age is socially meaningful only when it corresponds to some expected status, and the status of any particular career level in relation to other career levels has strong convergent and nomological validity (cf. Bagozzi 1980) for organizational members. Thus, it is reasonable to assume that the meaning of "career level" is constant and that observed variation in judgments results from real differences in perceptions of age.

The first question to be answered is whether managerial careers at BPC are age graded.[5] It seems likely that age grading is encouraged by low turnover, thus BPC is probably an ideal first organization in which to study age grading. Managerial vacancies are filled "in house," and advancement is a slow process. Employees have ample opportunity, therefore, to develop shared and reasonably accurate judgments of the age distribution.

However, BPC is only one organization, and although the results of this study may be generalizable, we do not know enough about age grading to know to what organizations they would generalize. Preliminary interviews conducted before this research suggest that age judgments of career progress are highly

dependent on organizational characteristics such as industry, size, age, and rate of growth. In addition, formal career ladders differ between companies, thus the age group criterion may be organization-specific. The question of generalizability is one of the significant areas for future work.

The questionnaire was developed in several stages through pre-testing with MBA students (22-30 years old), middle managers in the Sloan Fellows program (35-45 years old), and executives in the Senior Executives program (45-60 years old) at the Sloan School of Management, MIT. Later, it was reviewed with several individuals at BPC. The questionnaire asks, for each career level in the organization, subjects' judgments of 1) the typical age of individuals in that level, and 2) the age range of individuals in that level. Actual company titles for each career level were used. In the following example, the respondent indicates that he believes the typical age of Supervisors is 37 and that Supervisors range in age from 25 to 58 years old.[6]



Demographic data as well as information on attitudes towards work were also requested.

The questionnaire was distributed through company mail to all salaried staff and managerial employees (N=1043) in December 1980. The company permitted one follow-up memorandum, distributed in January 1981. Forty-seven percent (N=488) of these employees returned the questionnaire, which is the expected return given the constraints imposed by the company (Heberlein & Baumgartner 1978). A comparison of these employees with actual demographic data shows the sample is representative of the population in its age, tenure, and gender distributions.[7]

Employees' age judgments and the actual age distributions within BPC were used to address the two central questions of this study: "Are work

organizations age graded?" and "Do members' age judgments accurately reflect the actual age distribution of their organization?"

II. ISSUES IN THE ANALYSIS OF AGE GRADING

There are two criteria for determining the existence of age grading from questionnaire data. First, there must be some agreement on ages at each career level. Second, there must be differences between ages in different career levels. In an organization highly differentiated by age (highly age graded), everyone agrees that the ages associated with each career level are discrete. In an organization undifferentiated by age, on the other hand, the expected age of managers is unrelated to career level.

One of the problems in studying agreement is deciding how much agreement there must be among a group of people before judgments are said to be "shared." In past studies, agreement on age group boundaries was assessed either by inferring consensus--complete agreement on age judgments (Eisenstadt 1956), or by using modal responses--some large fraction of similar age judgments (Neugarten and Petersen 1957). Kluckhohn suggests that "the best conceptual model of the culture can only state correctly the central tendencies of ranges of variation" (1951, p. 76).

This study follows Kluckhohn by examining the central tendencies and ranges of variation of age judgments for each career level, and then by using those distributions to identify age groups. Although both consensual and modal age groups can be identified, this study concentrates on modal age groups. A consensual age group is the range of all age judgments on a single career level, and a modal age group is the range of characteristic responses, where characteristic responses are determined by the patterns observed in the distribution. Figure 1 provides a simple comparison between the operational measurement of the two types of groups. In this example, the consensual age

group defined by judgments of Level 1 is 25 to 65, and the modal age group is 36 to 44.

FIGURE 1 ABOUT HERE

Consensual age groups represent a higher level of agreement than modal age groups; however, it is unlikely when studying careers that consensual age groups will ever be meaningfully different. Although age may be an implicit criterion permitting entry into a career level, it is rarely used as a criterion requiring exit except at retirement. Thus, it makes more sense to focus on modal age groups as indicators of employees' shared age judgments of the managerial timetable.

Once agreement is assessed and age groups are defined, age differences, the second criterion for establishing age grading, can be examined. Age differences are assessed by comparing individual age judgments and aggregated age judgments (age groups) across career levels. This establishes 1) whether individual employees see age differences between career levels, and 2) whether employees' aggregated age judgments (age groups) distinguish between the ages of different career levels. The first question of this study "Is BPC age graded?" was studied using this procedure.

III. AGE GRADING OF THE MANAGERIAL CAREER

Managers' agreement on age judgments, as assessed by the instrument shown earlier, was examined. The mean, standard deviation, and range of responses for all eight career levels are shown in Table 1. Two interesting and potentially important aspects of the questionnaire responses should be noted. First, even though the instrument permits reponses at any ages between 18 and 74, most managers specified ages only to the nearest multiple of five years.

In other words, the age scale was treated as an eleven step ordinal item. This preference for ages ending in "0" and "5," also known as "age heaping," is common in census-reporting across countries (Shryock, Siegel et al. 1980 p. 204). In this case, it suggests that when assessing the age distribution of their firm, BPC managers do not distinguish between ages less than about five years apart. Alternative explanations, such as misinterpretation of the questionnaire instructions, are possible but less plausible. Second, when one takes the distinction between ordinal and interval treatments into account, the distributions are unimodal. This suggests that people agree that a single age represents what is typical for each level. An alternate finding might have been a bimodal or multimodal distribution, indicating that some people believe one age is typical while others believe a different age is typical.

TABLE 1 ABOUT HERE

Considerable variation in age judgments is observed for all eight career levels shown in Table 1. Analysis reported elsewhere (Lawrence 1983) indicates that only a small portion of the variation in age judgments can be attributed to a subject's age, organizational tenure, career level, or education. Thus, although age judgments are somewhat influenced by an individual's position and relationships within the organization, there are no simple explanations for the variation observed at BPC.[8]

Despite this variation, there are a number of strong patterns underlying these age judgments. The mean judgments increase monotonically with career level, suggesting subjects do see age differences between levels. To confirm whether these differences are significant, a multivariate repeated measures test (Morrison 1976, pp. 141-150) was used. The null hypothesis is that mean age judgments are equal across all eight career levels.

Differences in mean age judgments across career levels were tested for the typical age, youngest age, and oldest age. The null hypothesis is rejected for each set of judgments [Typical age: $F=579.98$, $df(7,314)$, $p<.001$; Youngest age: $F=652.01$, $df(7,314)$, $p<.001$; Oldest age: $F=95.18$, $df(7,314)$, $p<.001$]. Given that differences are observed, simultaneous confidence intervals were computed for the differences between adjacent levels within each set to determine which career levels differ. The results show that, with the exception of oldest age judgments for Levels 3 and 4, subjects see managers in all adjacent career levels as significantly different in age. Thus, even though there is variation in age judgments, individual employees do use age to differentiate between career levels.[9]

The clustering of age judgments in modal age groups confirms these perceived differences in career levels. Modal age groups were defined using characteristic judgment patterns for the typical age. As previously discussed, most subjects specified ages at five-year intervals. These five-year peaks were considered significant when the responses on a particular age exceeded ten percent of the sample ($N=48$). For each level, all such significant ages occur at adjacent five-year intervals, and with few exceptions, the fraction of responses between these adjacent ages is higher than the fraction of responses between any other five-year age intervals. Thus, the distributions for all levels are unimodal, both for the ages that are multiples of five and for those that are not. This important result allows for the specification of a "typical" age for each level. In addition, the range defined by these ages includes between 66 and 80 percent of all responses. Modal age groups thus capture both the characteristic responses of subjects as well as the majority opinion.[10]

Figure 2 shows the modal age groups defined by all eight career levels. The demographic age groups shown in this Figure are discussed in Section IV.

Modal age groups represent shared, though not consensual, beliefs about the typical ages of managers. For example, subjects believe it is atypical for a Level 1 manager to be 50 years old. Similarly, they believe a Level 7 manager is not usually 45 years old.

FIGURE 2 ABOUT HERE

Although some modal age groups overlap, each age group defines only one career level, except for the third which defines three. Why subjects do not distinguish between Levels 3, 4, and 5 is an interesting question. One interpretation is that subjects see career movement ending between the ages of 45 and 55. Because middle management is the upper limit of most careers, these levels are seen as similar in age. If this interpretation is correct, it suggests that employees believe age 55 is the plateau for all managerial careers. Whatever position employees attain by 55 is likely where they will remain, even though they will probably work for another fifteen years.

The importance of age 55 is supported by two other characteristics of these age groups. Because this age is also seen as the upper age limit of Level 6 managers, only the highest management positions in the company, the Senior Vice-Presidents, CEO, and President, are believed typically older than 55. This supports the interpretation that most career movement occurs before this age. In addition, age 55 serves as a boundary between age groups that are discrete. Assuming that age has most social significance when it defines discrete events, age 55 is important for understanding subjects' perceptions of managerial careers in this company.

The nonoverlapping segments of age groups may signal subjects' perceptions of other critical ages in managerial careers. Figure 2 shows that only Level 1 managers are perceived as 35-40 years old, only Level 7 managers are perceived

as 55-60 years old, and only Level 8 managers are perceived as 60-63 years old. The boundaries of these age group segments suggest that, in addition to age 55, ages 40 and 60 are important in the managerial career. Given that most subjects will not become Level 7 or Level 8 managers, these boundaries suggest that subjects believe all upward career movement occurs between the ages of 40 and 55. This means that in an organization where most employees remain for their entire work lives, about 45 years, managers see themselves as upwardly mobile during only fifteen years. Two-thirds of their lives will be spent in jobs with no change in level. Although longitudinal data are not available from this company, these perceptions are consistent with Rosenbaum's (1979a) study of a large corporation, in which the period of high career mobility was limited to a rather short time in life.

Discussion

Managerial careers within an organization are age graded if career levels are differentiated by the age judgments of members. The two criteria for age grading (See Section III) are agreement on ages at each career level and differences between ages in different career levels. The results confirm that managerial careers in BPC are age graded. The analysis of age agreement on career levels shows that although there is wide variation in subjects' judgments of each career level, there is agreement that managers increase in age for each increase in career level. An analysis of modal age groups shows that age divides the managerial career into four discrete age categories. Typical managers in Level 1, Levels 3-5, Level 7, and Level 8 are seen as being different in age from one another. Age differences across career levels for both individual age judgments and organizationally-perceived modal age groups confirm that managerial careers within the Bennix Power Company are age graded.

One final question that must be asked is whether these shared age judgments represent age norms. As pointed out by Marini (1984), employees must believe not only that their judgments represent the actual ages of managers, but that they represent the appropriate ages of managers--the "should be" as opposed to the "is." The shared judgments observed here identify what employees perceive as the boundaries of normal behavior. For example, employees believe the typical Level 1 manager is between 35 and 45; therefore, Level 1 managers younger or older than this age group are seen as exceptions.

There is still a difference between this inference of what is acceptable and an explicit statement by subjects that such ages are or are not acceptable. It seems reasonable to suggest, however, that shared age judgments of what actually is typical represent normative age boundaries for the average good manager.[11]

Shared age judgments, then, define what ages are seen as ahead of schedule, on schedule, and behind schedule for each career level. It is always "acceptable" to be in any one of the three categories, but to the extent that position in the managerial career has recognized status, age judgments of managers in different age-based categories should carry sanctions if they are norms. The individual consequences of age group membership are examined in Section V.

IV. THE ACCURACY OF AGE JUDGMENTS

The second question in this study is "Do members' age judgments accurately reflect the actual age distribution of their organization?" To answer this question, employees' age judgments were compared with the actual age distribution of each career level in the Bennix Power Company.

Table 1 in Section III summarizes the actual ages of all career levels.[12] Although the ages of managers in Levels 1 through 3 are somewhat normally

distributed, the age distributions of Levels 4 through 8 are fairly flat. The youngest manager in the company is 25 and the oldest manager is 66. The age range of managers is large in each of the first five levels, but decreases dramatically in Levels 6 through 8. This reflects the increasing age of the youngest manager in higher career levels. Managers in the upper levels of the organization are more similar in age than those in the lower levels. If a manager reaches the top of the organization, he or she is likely to work with age peers.

Comparing these distributions with subjects' age judgments, we find that some aspects of age judgments are accurate and others are not. Figure 3 compares actual ages with the average judgment for each career level. One set of points compares the actual youngest age with the average youngest age judgment; another set compares the actual oldest age with the average oldest age judgment; and a third set compares the actual average age with the average typical age judgment. Points fall on the identity line when the average age judgment is accurate.

FIGURE 3 ABOUT HERE

The figure suggests several trends. First, on average, subject's judgments of the typical age are fairly accurate. Second, on average, subjects consistently overestimate the youngest age and underestimate the oldest age of each level, and third, the accuracy of subjects' judgments increases with each career level.

Because this figure only examines average judgments, actual accuracy may be obscured. If judgments are accurate, the average age judgment should equal the actual age. However, there is variation in judgments; therefore, a second measure of accuracy is whether the actual age is within the range of most age

judgments. If the actual age is within one standard deviation of the average judgment, then a large proportion of subjects is making reasonably accurate age judgments of that level. Although this procedure has no statistical significance, the results give a general idea of those career levels on which most subjects are reasonably accurate. All three judgments were compared with the actual age distributions, and judgments that meet this accuracy criterion are indicated in Figure 3.

The results of these comparisons confirm the visual examination. All judgments of the typical age are accurate, except for those of Level 1. Although people underestimate the average age of managers in Level 1, a large proportion of respondents have a good picture of the "typical" manager in other levels. In contrast, judgments of the youngest and oldest managers are not so accurate. All judgments of the youngest age are inaccurate, except for those of Levels 7 and 8. For the oldest age, the only accurate judgments are those of Levels 6 and 8. The important subject of systematic disagreements between judgments and actual ages will be addressed in the next section.

Both age judgments and the actual age distribution suggest that career movement ends between Levels 3 and 5. Earlier, it was inferred that subjects believe career movement ends between these three levels: modal age groups indicate that managers between Levels 3 and 5 are seen as similar in age. The large decrease in the actual number of managers between Levels 3 and 4 and then between Levels 5 and 6 suggest that these modal age judgments are an accurate reflection of reality--in terms of mobility, but not necessarily in terms of age. The observation of accuracy in perceiving underlying age patterns but not actual ages is also noted for the lower age boundary for each career level. Earlier, it was shown that employees believe the age of the youngest manager increases with career level. With the exception of Level 2 to Level 3, this perception is accurate, even though employees' age judgments are not.

Structural age groups are defined by the age range one standard deviation around the mean age for each career level. Figure 2 in Section III shows the comparison of BPC's structural age groups and its normative (modal) age groups. For seven of the eight career levels, normative age groups are defined by a narrower age range than are structural age groups. Employees' shared judgments constrain the band of appropriate ages for each career level. People are more discriminating than the structure suggests.

Discussion

The second question in this study asks whether employee age judgments are an accurate reflection of organizational reality. The results indicate that the accuracy of some age judgments is higher than others. To a certain extent, age judgments appear based on the actual age distribution within the organization. Wide variation in judgments mirrors actual variation in ages. Typical age judgments are fairly accurate; however, the distinction between judgments and reality increases for the age boundaries.

It appears that many employees do not realize how early promotions are occurring, and do not recognize the numbers of employees who remain in one position until retirement. This last finding is particularly curious since it is no secret that most employees do not leave the company until they retire. The consistent underestimation of the age of the oldest manager may reflect an American fantasy that promotion opportunity continues forever (Rosenbaum in press). The existence of long plateaued, older employees may be obscured by this fantasy.

One possible explanation for the relative accuracy of the typical age compared with the youngest and oldest age judgment is that people make judgments based on what they see, and they see the "average" manager more often than the youngest manager or the oldest manager. However, this does not

account for the increasing accuracy of the youngest and oldest age judgments for the upper career levels. The actual age distributions of the upper career levels are almost flat, suggesting that there is no "typical" age for these higher level managers. People may make better age judgments of these managers because they are more visible and there are fewer of them.

Even though typical age judgments are in reasonable agreement with actual ages for each level individually, when considered as a career timetable, there is remarkable disagreement. Compared with actual ages, typical age judgments systematically exaggerate the differences between the first five levels. In typical age judgments, Levels 1 and 5 are on average ten years apart. In actual age, Levels 1 and 5 are on average only two years apart. Employees appear to believe that they are on an age-based career ladder. In fact, it is unclear there is much of a ladder at all.

In addition to creating this age-based career ladder, employees also constrain the ages perceived as typical for individual career levels. The fact that people use age to create larger differences between organizational statuses than exist in reality suggests, first, that these age judgments are age norms, and second, that there may be important distinctions between normative and structural studies of age in work organizations.

V. THE NORMATIVE CONSEQUENCES OF AGE GROUPS

The significance of age groups depends on whether there are organizational consequences for being "off schedule." And the importance of the distinctions between normative and structural age groups depends on whether "off schedule" consequences for each perspective differ. To examine these questions, performance data were obtained for the population of BPC managers who received performance ratings the year the questionnaire was distributed (N=542).

Although performance ratings are not perfect measures, they are believed to be good indicators of productivity (See Medoff and Abraham 1980 for a discussion of this topic). If there are social sanctions for being off schedule, it seems reasonable that employee performance ratings would be affected. Managers who are ahead of schedule generally are viewed with higher regard than managers who are behind schedule. Thus, the number of high performers should be greatest for those in the ahead of schedule category and lowest for those in the behind schedule category. In addition, the performance ratings in the ahead of and behind schedule categories should differ significantly from what is expected within the population, whereas the performance ratings of on schedule managers should be unaffected by age group membership.

BPC performance ratings range from Unacceptable (0) to Excellent (5). A majority of managers receive Good (3) ratings (N=305, 56.3%), suggesting this category can be interpreted as including competent, but not outstanding individuals. The managers above (N=161, 29.7%) and below (N=76, 14.0%) this group can be treated as the high and low performers at BPC.

Both normative (modal) and structural (demographic) age groups were used to divide the population of BPC managers into ahead of schedule, on schedule and behind schedule categories. For example, applying normative age groups, all Level 1 managers younger than 35 were assigned to the ahead of schedule category, as were Level 2 managers younger than 40, Level 3 managers younger than 45, and so forth through the eight levels. The same procedure was used to divide the population using structural age groups. The proportion of high performance managers in each of the ahead of schedule, on schedule, and behind schedule categories was then examined.

The results show a consistent relationship between on and off schedule categories and employee performance. Regardless of whether normative or

structural age groups are used, managers are increasingly likely to be high performers the closer they get to being ahead of schedule. The proportion of high performers increases from 23% to 42% between normatively-defined behind and ahead of schedule categories, and from 22% to 39% between structurally-defined behind and ahead of schedule categories. A chi-square goodness-of-fit test was used to test whether these observed proportions differ from what is expected given the population. The proportion of high performance managers in the population is 29.7%, thus the expected frequency for each category is 29.7% of the sample frequency in that category.

Table 2 summarizes the results of these tests. As predicted, both the number of high performers in the normatively-defined ahead of schedule and behind schedule categories are significantly different from expected. The number of high performers in the ahead of schedule category is significantly higher than expected and the number of high performers in the behind schedule category is significantly lower than expected. The number of high performers in the on schedule group does not differ significantly from the population.

TABLE 2 ABOUT HERE

The results for the structurally-defined categories are quite different. None of the on and off schedule categories discriminates employee performance from what is expected within the population at the .05 level. If demographers had examined age groupings in BPC using these structural specifications, they would not have observed performance sanctions for being off schedule. Structural age groups do not appear to carry the same social meaning to employees as do normative age groups.

An alternate explanation for these findings is that the probability of being a high performer is positively related with youth. Employees in the

ahead of schedule category may receive higher performance ratings because they are younger than other employees, and younger employees receive higher ratings, regardless of age group membership.

To examine this possibility, the relationship between age and performance was studied. Although the correlation between these two variables is not significant ($r=-.04$, $p=.35$), further examination reveals they have a curvilinear relationship. The proportion of high performance managers is lowest among young (20-30) and old (63+) managers. It is highest among employees between the ages of 31 and 40. After 40, the proportion of high performers declines somewhat but remains relatively stable through age 62. These characteristics of the performance distribution were used to divide managers into four age cohorts: 20-29, 31-40, 41-62, and over 62. If age explains performance independent of age group membership, there should be no difference between the proportion of high performers in each on and off schedule category. Table 3 shows this is not the case.

TABLE 3 ABOUT HERE

In all instances where there is a comparison age cohort, ahead of schedule managers are more likely to be high performers than on schedule managers, and on schedule managers are more likely to be high performers than behind schedule managers. For the normatively-defined categories, 48% of the ahead of schedule managers in the top performance 31-40 year-old age cohort are high performers whereas only 33% of the on schedule managers in this cohort are high performers. Similarly, 42% of the ahead of schedule managers in the moderate performance 40-62 year-old age cohort are high performance managers, whereas only 35% of the on schedule managers, and 24% of the behind schedule managers in this age cohort are in this category. The same pattern of results is

observed for the structurally-defined categories. Age group membership appears strongly related to employee performance, regardless of an employee's age.

Discussion

Managers who deviate from what is seen as the "normal" age for their career level are sanctioned through performance ratings. This result adds additional support to the argument developed earlier that employees' shared age judgments do identify important normative boundaries. Although it is not possible with cross-sectional data to state whether age group deviance causes differences in performance ratings or whether performance ratings define age group deviance, there clearly is a relationship between the two. The normative importance of shared age judgments is emphasized by the contrasting results received for structural age groups, where no sanctions are observed for off schedule managers.

Supervisors appear to use shared age judgments as an implicit evaluation criterion. Yet, being off schedule may have little to do with performance. Highly respected managers may choose a slower promotion route even when given the opportunity to move ahead (Bailyn 1979). As a result, it is unknown whether the differences in performance ratings observed here indicate perceived or actual differences in performance. It seems likely, however, that such evaluations, even if originally incorrect, become accurate over time through a social form of self-fulfilling prophecy. The process through which age norms sanction and ultimately constrain behavior is an area for further investigation.

VI. SUMMARY AND IMPLICATIONS

The first question addressed in this research was: "Are work organizations age graded?" Using a questionnaire, judgments of the actual age distribution

in a single company were obtained. The results show empirically what has long been suggested theoretically: work organizations are age graded. Employees use age as a map on which normal career progress is charted and against which deviance is measured. The answer to the second question "Do members' age judgments accurately reflect the actual age distribution of their organization?" suggests there are numerous discrepancies between employees' perceptions and the actual age distribution. Members exaggerate the age differences between career levels, suggesting that employees believe in an age-based career ladder despite the evidence.

The importance of these perceptual inaccuracies is confirmed by the relationship between age group membership and performance. The probability of receiving high performance ratings is affected significantly when managers are off schedule with perceptions, but not when they are off schedule with reality. This suggests first, that shared age judgments are age norms, and second, that when perceptions do not match reality, demographic variables used as direct indicators of explanatory variables (cf. Wagner, Pfeffer, & O'Reilly 1984) may be missing some of the explanation.

The unarticulated and probably unconscious use of shared age judgments in evaluation underscores the importance of such basic assumptions in organizational culture (Schein 1984). If age grading occurs and differs in other organizations, "career plateaus" and "technological obsolescence" may be organizationally-specific manifestations of age as a social phenomenon. A 35 year-old middle manager may be "plateaued" in one company and "fast track" in another. Mergers may be complicated when firms have top management teams of widely-differing ages. And employees who choose lateral transfers or career slowdowns at the "wrong age" may risk unknowingly their future chances for promotior. Such organizational issues frequently have been attributed to chronological aging, but they may be better explained by "cultural aging."

In the past, research on age as a social phenomenon has been divided by normative and structural perspectives. The results presented here suggest that this separation is not just a question of measurement. There are statistically significant performance differences when managers deviate from shared age judgments, but not when they deviate from demographic reality. Thus, structural measures cannot assume to capture social constructions around age.

This calls for a new interpretation of the two perspectives and the relationship between them. Stewman and Konda (1983), for example, examine demographically-determined promotion probabilities in organizations. Although their focus is structural, they state that promotions are conditional on managerial preferences, and then assume that such preferences are stable. The normative perspective suggests that managerial preferences may indeed be stable in the short run, but for a social rather than individual reason. Managers' promotion decisions may be guided by shared perceptions of whether subordinates are ahead of, on, or behind schedule on the age-based organizational timetable.

In the long run, however, organizational age norms are likely to change. Little is known about age judgment formation, but it seems almost certain that employees' age judgments are based on what they see around them: the actual age distribution. As demographic changes take their inevitable toll on age perceptions, managerial preferences will <u>not</u> remain stable. Predicting managerial preferences may require knowledge of the stability of such judgments given a stable age distribution, and the time lag between a changing age distribution and subsequent changes in judgments. Explaining promotion patterns requires not only consideration of both organizational age norms and the actual age distribution, but an examination of how the former evolves out of the latter.

The social effects of age on behavior, then, result from a complex interplay of social and demographic characteristics. This paper has discussed such effects in terms of normative discrepancies, deviance from socially shared expectations of age, and structural discrepancies, deviance from actual age distributions. A third possibility that has not been discussed is that people respond to individual discrepancies, or deviance from their own perceptions of the age distribution (Lawrence 1984a). Although age norms provide implicit rules for career timetables, individuals may respond to such rules in different ways. Understanding the separate effects of and joint interaction between these three explanations of age effects is crucial for elaborating how people create, recreate, and maintain continuity at work by using age to index their expectations.

FOOTNOTES

1) I would like to acknowledge the helpful comments of Dennis Hogan, Gordon Walker, Connie Gersick, Mitchell Koza, Eric Leifer, Margaret Marini, William Ouchi, and Peter Yeager on an earlier draft of this paper. This research was supported by grants from the National Institute on Aging #1 R01 AG04615-01, the Office of Naval Research Contract N00014-80-C0905; NR 170-911, and the Administration on Aging #90 ATO 0 33/11.

2) Age judgments are individual perceptions of the age distribution, or ages, of members of some specified social group.

3) Radcliffe-Brown is generally credited with defining the term age grade. According to this definition (1929, p. 21), an age grade is: "the recognized division of the life of an individual as he passes from infancy to old age. Thus, each person passes successively into one grade after another, and, if he live (sic) long enough, through the whole series--infant, boy, youth, young married man, elder, or whatever it may be." The term was developed for use in tribal societies where age groupings appeared fairly simple. However, in modern times, people belong to many significant social groups making it less reasonable to use the term "age grade" only for discrete age categories. Hence, age grading is defined here as the differentiation of a social group by the shared age judgments of its members.

4) We are all aware of instances where the informal status system does not correspond to formally ascribed status. An unusually competent young manager who is ahead of schedule in a lower level position may have a higher informal status than a plateaued manager at a higher level, even

though the young person's formal status is lower. However, it is interesting to note that in this case informal status is dependent on the social construction of formal status. A manager has higher or lower informal status as a result of being recognized as ahead of or behind what is accepted as normal progress. This means that "normal progress" must first be socially defined. The shared understanding of normal progress is what members use to identify deviants, who are then rewarded or sanctioned by the system. I expect that members will create an age graded career timetable around the formal status system to define normal progress.

5) It should be noted that studying the age grading of managerial careers does not mean studying the entire system of age judgments held by employees in the organization. Age grading in a work organization includes age judgments of the organization, as well as other age judgments brought in by employees from their families, religious or ethnic groups, or communities. These general age judgments are not distinctive because they exist in other social groups. Nonetheless, they operate within the work environment and thus belong to the organization's age grade system.

6) The visual age scale allows people to be flexible in answering questions. Pre-testing indicated that people will come up with a numerical age if forced to do so; however, they find it easier to respond to a visual picture of the entire age range. Whether these two methods, requesting specific numerical ages and providing the visual age scale, would have elicited different responses is unknown. Additional study on the reliability and validity of different methods of obtaining age judgments is necessary.

7) BPC had never participated in a survey study. Company officials were concerned about 1) the perceived confidentiality of results, and 2) managerial time in completing the survey. As a result, anonymous questionnaires were used, and only one follow-up letter was mailed. Heberlein and Baumgartner (1978) suggest that under these field conditions, the expected return is 57.5%. The 47% response rate obtained is well within the 95% confidence interval for Heberlein and Baumgartner's equation for the expected return.

Sample bias was examined by comparing demographic characteristics of the sample and the population. The sample is representative of the population in age ($t=.40$, $df=918$, $p=.65$: sample mean compared with mean of random sample of equal size selected from population), sex ($x^2=.22$, $df=1$, $p<.7$), and tenure ($t=.27$, $df=896$, $p=.79$: sample mean compared with mean of random sample of equal size selected from population). Response levels fluctuate between functional areas ($x^2=20.1$, $df=4$, $p<.001$) and career levels ($x^2=134.35$, $df=7$, $p<.001$) with the distribution of responses by career level biased towards middle level management and salaried staff positions. However, functional area and career level are not strongly related to age judgments. Thus, the subjects' age judgments examined here can be generalized reasonably to BPC's total salaried employee population.

8) This variation also is not explained by coding errors. An independent comparison of the final data set against the original questionnaires by two coders indicates the error rate is negligible.

9) Tables including the computed confidence intervals are available from the author.

10) For Level 1 typical age judgments, for example, the peaks are ages 35, 40, and 45. Each of these peaks exceeds ten percent of the total sample (13%, 17%, 15%). The ages between 35 and 40 account for 15% of the total sample and the ages between 40 and 45 account for 9%. The next closest candidate for inclusion as a modal age group boundary is age 30. However, responses on this age and the ages between 30 and 35 represent a large drop in frequency. The fraction of responses on age 30 is 7%, and the fraction of responses between 30 and 35 is also 7%. Thus, 35 and 45 were selected as the modal age group boundaries for this career level. Seventy percent of all subjects believe the typical age of Level 1 managers is between 35 and 45.

Using characteristic response patterns to define modal age groups is different from using the mean and standard deviation. Although in this case the two define similar ranges, characteristic response patterns were used because they capture the consistent manner in which these subjects made typical age judgments.

11) This study defines age norms for the "average good manager." But the fact there are "exceptional people," managers who are hot shots or on a slow boat to nowhere, suggests age norms for career progress may be further differentiated beyond ahead of, on, and behind schedule categories. It seems likely, for instance, there are different age norms for a manager who aspires to be CEO, and one who wishes to stay in project management.

12) Distributions for each level are available from the author.

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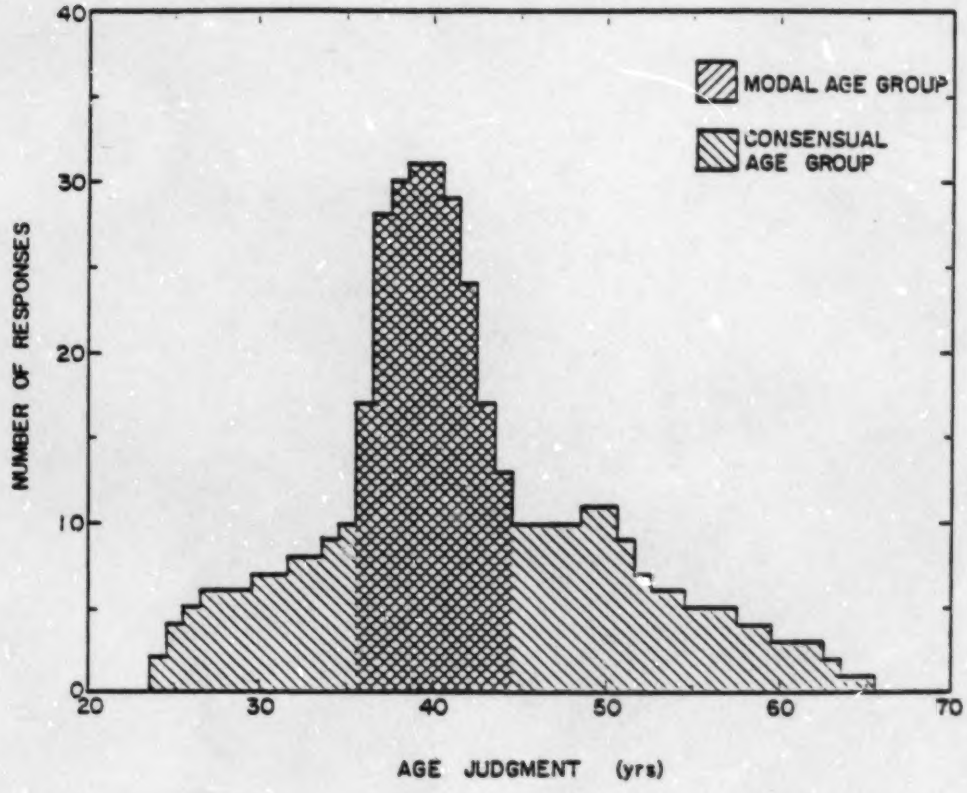

Fig. 1.--Consensual and Modal Age Groups Defined by Age Judgments of One Career Level.

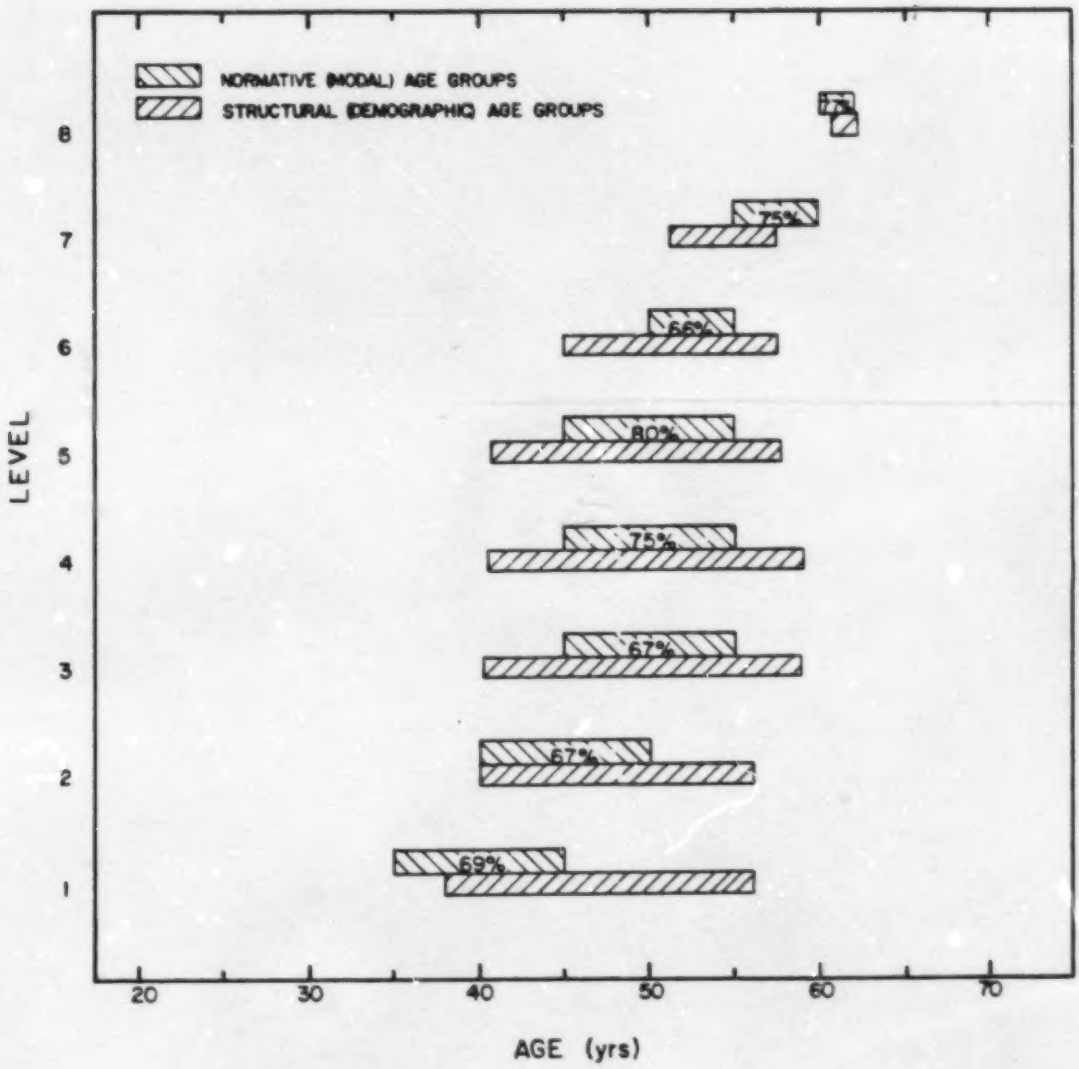

Fig. 2.--Comparison of Normative (Modal) and Structural (Demographic) Age Groups. Modal age groups are defined by characteristic response patterns on the typical age judgment. The numbers within the bars indicate the fraction of total responses falling within the given age range. Structural age groups are defined by the age range one standard deviation around the mean age for each career level.

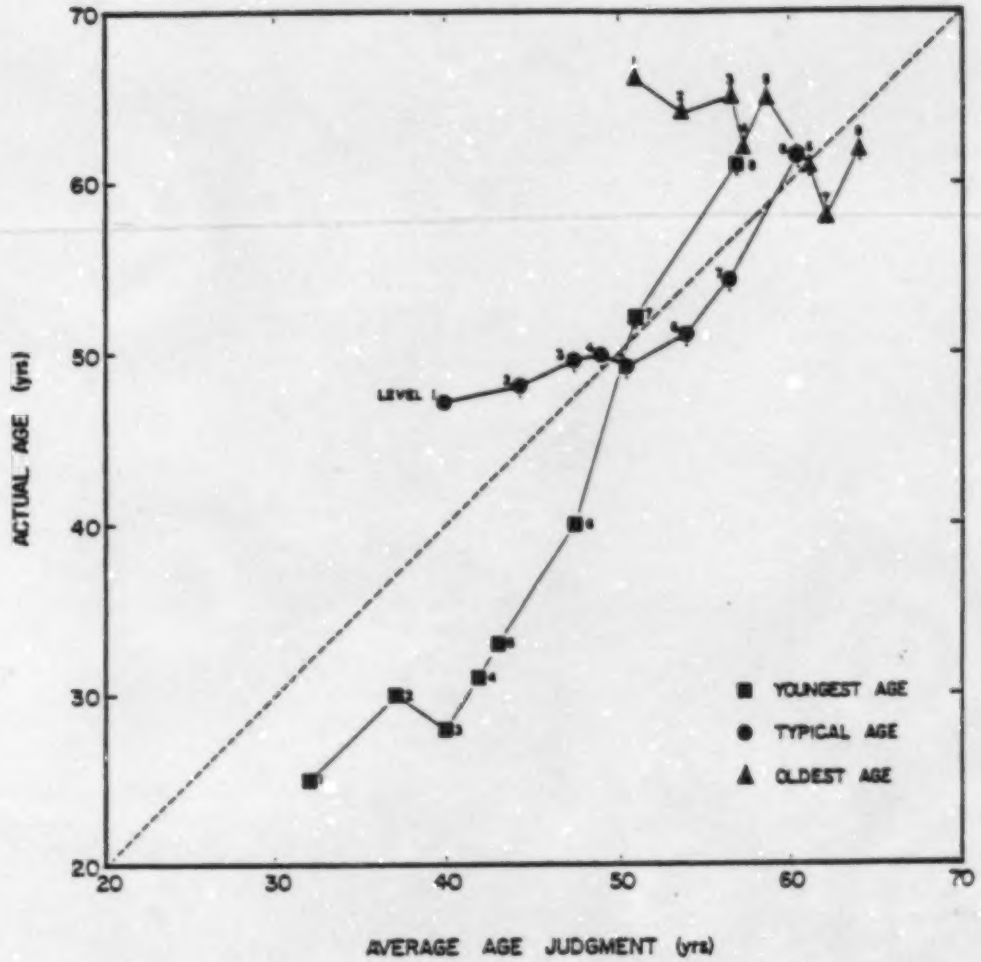

Fig. 3.--Comparison of Actual Age With Age Judgments. For those levels marked underneath by a dot (.), the actual age falls within one standard deviation of the average age judgment.

TABLE 1

PERCEIVED AND ACTUAL AGES OF THE MANAGERIAL CAREER

A. AGE JUDGMENTS

CAREER LEVEL	TYPICAL AGE			YOUNGEST AGE			OLDEST AGE		
	$\bar{X}$	SD	Range	$\bar{X}$	SD	Range	$\bar{X}$	SD	Range
Level 1: Supervisors.....	40.0	6.1	25-57	32.2	5.7	20-52	50.9	9.4	30-68
Level 2: Senior Supervisors..	44.3	6.1	30-60	37.3	6.0	20-55	53.7	8.1	29-68
Level 3: Division Heads.....	47.5	5.8	33-60	40.0	6.4	25-56	56.5	7.2	35-68
Level 4: Asst. Dept. Heads...	49.1	5.5	34-61	41.9	5.7	28-56	57.2	6.4	39-68
Level 5: Department Heads....	50.5	4.8	35-62	43.1	6.0	30-61	58.7	5.5	42-69
Level 6: Vice Presidents.....	53.9	3.7	40-63	47.5	4.3	35-61	61.1	3.8	48-70
Level 7: Sr. Vice Presidents.	56.4	3.3	45-65	51.0	3.7	40-63	62.1	3.1	49-70
Level 8: President & CEO.....	60.4	2.7	50-75	56.7	3.9	45-64	63.9	2.3	55-74

B. ACTUAL AGES

CAREER LEVEL	MEDIAN	MODE	μ	σ	RANGE	N
Level 1: Supervisors.....	48.0	47	47.2	8.9	25-66	287
Level 2: Senior Supervisors.....	49.0	48	48.1	8.1	30-64	139
Level 3: Division Heads.....	50.0	57	49.6	9.3	28-65	96
Level 4: Asst. Dept. Heads.....	52.5	57	49.8	9.4	31-62	24
Level 5: Department Heads.....	49.0	54	49.2	8.5	33-65	31
Level 6: Vice Presidents.....	52.0	53	51.1	6.1	40-61	10
Level 7: Sr. Vice Presidents.....	53.5	52	54.3	2.9	52-58	4
Level 8: President & CEO.....	61.5	61	61.5	0.7	61-62	2
TOTAL:						593*

* There are a total of 1043 salaried staff and managerial employees, of whom 593 are defined by BPC as "managers."

TABLE 2

OBSERVED AND EXPECTED FREQUENCY OF HIGH PERFORMANCE MANAGERS IN NORMATIVE AND STRUCTURAL AGE GROUPS

A. NORMATIVE AGE GROUPS

CATEGORY	OBSERVED	EXPECTED[a]	
AHEAD OF SCHEDULE:			
High Performance	34	24.35	
Low to Average Performance	48	57.65	
Total:	82	82.00	x^2=5.44*, df=1
ON SCHEDULE:			
High Performance	65	55.24	
Low to Average Performance	121	130.76	
Total:	186	186.00	x^2=2.45, df=1
BEHIND SCHEDULE			
High Performance	62	81.38	
Low to Average Performance	212	192.62	
Total:	274	274.00	x^2=6.57*, df=1

B. STRUCTURAL AGE GROUPS

CATEGORY	OBSERVED	EXPECTED[a]	
AHEAD OF SCHEDULE:			
High Performance	31	23.46	
Low to Average Performance	48	55.54	
Total:	79	79.00	x^2=3.44, df=1
ON SCHEDULE:			
High Performance	113	114.05	
Low to Average Performance	271	269.95	
Total:	384	384.00	x^2=.014, df=1
BEHIND SCHEDULE			
High Performance	17	23.46	
Low to Average Performance	62	55.54	
Total:	79	79.00	x^2=3.44, df=1

* = $p < .05$

a = The expected frequency = .297(N), where .297 is the proportion of high performance managers in the population and N is the sample size in the category.

TABLE 3

THE PROPORTION OF HIGH PERFORMANCE MANAGERS IN ON AND OFF SCHEDULE CATEGORIES BY AGE COHORT

A. NORMATIVE AGE GROUPS

ON/OFF SCHEDULE CATEGORY	AGE COHORT 20-30	31-40	41-62	63+	TOTAL
AHEAD OF SCHEDULE	14% (N=2/14)	48% (N=27/56)	42% (N=5/12)	0% (N=0)	41% (N=34/82)
ON SCHEDULE	0% (N=0)	33% (N=8/24)	35% (N=57/162)	0% (N=0)	35% (N=65/186)
BEHIND SCHEDULE	0% (N=0)	0% (N=0)	24% (N=61/257)	6% (N=1/17)	23% (N=62/274)

B. STRUCTURAL AGE GROUPS

ON/OFF SCHEDULE CATEGORY	AGE COHORT 20-30	31-40	41-62	63+	TOTAL
AHEAD OF SCHEDULE	14% (N=2/14)	45% (N=29/65)	0% (N=0)	0% (N=0)	39% (N=31/79)
ON SCHEDULE	0% (N=0)	40% (N=6/15)	29% (N=107/369)	0% (N=0)	29% (N=113/384)
BEHIND SCHEDULE	0% (N=0)	0% (N=0)	26% (N=16/62)	6% (N=1/17)	22% (N=17/79)